Name: Dr. Thomas E. Kolb

Title: Professor of Forestry, School of Forestry, Northern Arizona University

Representing: Self

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Kolb Testimony

I appreciate the invitation to testify at this hearing. I have been on the faculty of the School of Forestry, Northern Arizona University (NAU), Flagstaff, Arizona, for the last 10 years, where I am currently Professor of Forestry. At NAU, I teach courses in forest ecology, forest health, and tree physiology, and much of my research focuses on the response of ponderosa pine forests to forest management actions, stress, drought, and insect attacks.

I also serve as President of the Board of Directors of the Greater Flagstaff Forests Partnership (GFFP), a non-profit organization working with the Coconino National Forest to restore healthy forest conditions surrounding Flagstaff. In this role, I have worked with the Partnership's 25-member Partnership Advisory Board since 1998 which has given me a keen understanding of both ecological issues and community concerns.

My testimony today represents my own views, not the opinions of NAU and the GFFP.

Forest Health in Southwestern Conifer Forests

There is little debate now that coniferous forests in the Southwestern U.S. are in terrible condition. High tree density caused by heavy regeneration in the early 1900s and suppression of surface fires that used to kill many young trees have led to forests characterized by highly stressed trees that are susceptible to bark beetle outbreaks, low plant and animal diversity, degraded habitat for animals adapted to open forests and grasslands, and uncontrollable, highly destructive wildfires. These symptoms of decline are most evident in ponderosa pine forests, but also occur in some pinyon-juniper woodlands and higher elevation mixed conifer forests.

Corrective Actions

I advocate the following actions to improve forest health in Southwestern ponderosa pine forests:

Reduce tree densities to levels that will constrain fire to burning understory fine fuels, such as leaf litter and herbaceous vegetation, not tree canopies. In some forests that already have low tree densities, prescribed fire alone can be used to achieve this goal. However, most ponderosa pine forests contain too many trees for the fire alone approach, and require mechanical thinning to reduce densities. After tree densities are reduced to safe levels, fires should be allowed to burn through the understory as long as houses and towns are not threatened. Light, surface fires are a natural part of the ponderosa pine forest, and have beneficial effects on most plants and wildlife habitat.

Do not limit tree reduction treatments to the urban-wildland interface. While these treatments can reduce wildfire hazard to houses and towns if only applied locally, the forest health crisis is much larger. The economy and quality of life of most people living in forested towns are strongly linked to a healthy forest landscape. For many people, a healthy forest means green trees, meadows of native grasses, good wildlife

habitat, protection from flooding by properly functioning watersheds, and recreation on the surrounding landscape, not only in their backyard or neighborhood. Proposals to limit tree thinning and burning activities to small areas surrounding human settlements are short sighted.

Thinning should be aimed at trees less than 100 years old, not old-growth trees. Old-growth trees, which for ponderosa pine can be defined as trees with yellow bark and greater than 100 years old, are scarce on the landscape because of past logging. They are more valuable for wildlife habitat than younger trees and often are more resistant to fire. However, conservation of existing old-growth trees is not enough to improve forest health; we need to create conditions that accelerate growth of young trees to large sizes. Development of forests with old-growth characteristics can be promoted by careful forest thinning.

Use a mosaic of different tree thinning approaches on the landscape, rather than one approach everywhere. Such a mosaic should include: heavily thinned stands, lightly thinned stands, meadow openings, unthinned stands, stands with a clumpy tree pattern, and stands thinned to approximate stand conditions present before European settlement. Creative use of such a mosaic can be used to reduce hazard to human settlements, provide diversity in stand appearance that most people like, and provide a diversity of habitats for animals.

Act now using an adaptive management approach in spite of incomplete information. We will never have all the information needed to address all important issues related to forest management. The best we can do is monitor the results of management actions, and learn by doing. Waiting for all the important information will result in large losses of ponderosa pine forests to wildfire and bark beetles and unacceptable impacts to people.

Develop local markets and industries that use small diameter trees, not large diameter trees. We know from other areas of U.S. and other counties that industry can use small diameter trees profitably. The most serious impediment to developing local markets and industries for small diameter trees is uncertainty about wood supply. Managers of Federal, State, and Tribal Forests must work together to coordinate a reliable supply of wood to promote market development. Sawmills that specialize in using small diameter trees and biomass energy plants that use trees to produce energy are exciting developments in this area.

I caution against efforts to re-establish local industry based on large sawlogs. Such an approach would be a step backwards, and will create an uprising of public dissent that will threaten our efforts to improve forest health.

Many wildfire burned areas do not need salvage logging for restoration. I am concerned about recent proposals to clean-up severely burned areas by salvage logging of dead trees. If the goal is to hasten recovery of severely burned areas, I advocate leaving dead trees on site, not logging them. Dead wood provides habitat for many animals, insects, and micro-organisms that are important components of forest ecosystems. Logs on the ground will help stabilize soils and provide favorable micro-habitats for tree establishment. Road building associated with salvage logging often creates erosion, which is already a major problem in wildfire areas, and promotes establishment of exotic noxious weeds that reduce forest health. I have seen no evidence that dead trees left in severe wildfire areas in Southwestern ponderosa pine forests are highly prone to reburning catastrophically, or spread fire to unburned forests.

Despite these cautions, I recognize that salvage logging may be justified immediately adjacent to trails, roads, and houses for safety reasons, and to support economies of communities dependent on logging. In these cases, logging should be done when soils are not saturated, and soil compaction should be minimized by using best logging practices. If trees have to be cut on steep slopes, helicopter logging should be used. I was pleased to hear that some of the salvage logging of areas burned by the Rodeo-Chediski Fire on the Apache Tribal Lands used helicopter logging.

Invasion by exotic, noxious plants is a serious concern in wildfire burned areas. Several exotic, noxious plants that have degraded rangelands and forests in California and the northern Rocky Mountains, such as diffuse knapweed, spotted knapweed, yellow star thistle, and leaf spurge, are present in Arizona. Once established, these noxious plants degrade ecosystems, and can persist for decades. I urge the panel to take this threat seriously and mandate and provide the resources for thorough sanitation of vehicles, people, and equipment entering wildfire areas. Exotic, noxious weeds in wildfire burned areas should be monitored and controlled aggressively.

FOLLOW-UP ADDRESS

Name: Thomas E. Kolb

Address: School of Forestry, Northern Arizona University, Flagstaff, AZ, 86011- 5018

Tel: 928-523-7491